

1 What is claimed is:

2
3 1. A method comprising:

4 initializing a processing system according to predetermined basic input/output
5 system (BIOS) settings for the processing system;
6 booting an operating system (OS) on the processing system; and
7 providing a virtual runtime interface that allows a user to modify the BIOS
8 settings for the processing system after the OS has been booted.

9
10 2. A method according to claim 1, further comprising:

11 receiving user input data that requests invocation of the virtual runtime interface;
12 and
13 automatically providing the virtual runtime interface, in response to receiving the
14 user input data.

15
16 3. A method according to claim 1, further comprising:

17 receiving user input data through the virtual runtime interface, wherein the user
18 input data specifies a modified BIOS setting; and
19 saving the modified BIOS setting to be implemented upon a subsequent
20 initialization of the processing system.

21
22 4. A method according to claim 1, wherein the operation of providing a virtual
23 runtime interface comprises:

24 transitioning the processing system from an OS context to a system
25 management mode (SMM) context;

26 determining whether an amount of time spent in the SMM context approaches an
27 SMM time limit; and

28 if the amount of time spent in the SMM context approaches the SMM time limit,
29 automatically transitioning from the SMM context back to the OS context.

1 5. A method according to claim 4, wherein the operation of providing a virtual
2 runtime interface comprises:
3 providing a BIOS setup interface that appears persistent to the user by
4 automatically interleaving two or more SMM contexts with two or more OS contexts.
5

6 6. A method according to claim 4, further comprising:
7 saving state information from the SMM context before transitioning from the SMM
8 context back to the OS context;
9 after transitioning back to the OS context, determining whether a configuration
10 session has been completed; and
11 if the configuration session has not been completed, automatically transitioning
12 from the OS context back to the SMM context.
13

14 7. A method according to claim 6, wherein the operation of determining whether a
15 configuration session has been completed comprises:
16 receiving input data from a watchdog timer for the virtual runtime interface when
17 the processing system is in the OS context.
18
19

- 1 8. An apparatus comprising:
2 a machine accessible medium; and
3 instructions encoded in the machine accessible medium, wherein the
4 instructions, when executed by a processing system, cause the processing system to
5 perform operations comprising:
6 providing a virtual runtime interface after the processing system has booted to an
7 operating system (OS), wherein the virtual runtime interface allows a user to modify
8 basic input/output system (BIOS) settings for the processing system, and wherein the
9 virtual runtime interface provides a graphical user interface (GUI) that accepts user
10 input data.
11
- 12 9. An apparatus according to claim 8, wherein the operation of providing a virtual
13 runtime interface comprises:
14 providing a BIOS setup interface that accepts alphanumeric input data.
15
- 16 10. An apparatus according to claim 8, wherein the operation of providing a virtual
17 runtime interface comprises:
18 providing a BIOS setup interface that accepts input data from a pointing device.
19
20

1 11. An apparatus comprising:
2 a machine accessible medium; and
3 instructions encoded in the machine accessible medium, wherein the
4 instructions, when executed by a processing system, cause the processing system to
5 perform operations comprising:
6 providing a virtual runtime interface after the processing system has booted to an
7 operating system (OS), wherein the virtual runtime interface allows a user to modify
8 basic input/output system (BIOS) settings for the processing system;
9 receiving user input data through the virtual runtime interface, wherein the user
10 input data specifies a modified BIOS setting; and
11 saving the modified BIOS setting to be implemented upon a subsequent
12 initialization of the processing system.
13
14 12. An apparatus according to claim 11, wherein the operations performed by the
15 instructions further comprise:
16 automatically providing the virtual runtime interface, in response to user input
17 data that requests invocation of the virtual runtime interface.
18
19

- 1 13. An apparatus comprising:
2 a machine accessible medium; and
3 instructions encoded in the machine accessible medium, wherein the
4 instructions, when executed by a processing system, cause the processing system to
5 perform operations comprising:
6 detecting a BIOS configuration trigger event after the processing system has
7 booted to an operating system (OS); and
8 in response to detecting the BIOS configuration trigger event, automatically
9 providing a virtual runtime interface that allows a user to modify basic input/output
10 system (BIOS) settings for the processing system.
11
- 12 14. An apparatus according to claim 13, wherein the instructions cause the
13 processing system to provide the virtual runtime interface by:
14 transitioning the processing system from an OS context to a system
15 management mode (SMM) context;
16 determining whether an amount of time spent in the SMM context approaches an
17 SMM time limit; and
18 if the amount of time spent in the SMM context approaches the SMM time limit,
19 automatically transitioning from the SMM context back to the OS context.
20
- 21 15. An apparatus according to claim 14, wherein the instructions cause the
22 processing system to provide the virtual runtime interface by:
23 saving state information from the SMM context before transitioning from the SMM
24 context back to the OS context;
25 after transitioning back to the OS context, determining whether a configuration
26 session has been completed; and
27 if the configuration session has not been completed, automatically transitioning
28 from the OS context back to the SMM context.
29

1 16. An apparatus according to claim 15, wherein the operation of determining
2 whether a configuration session has been completed comprises:
3 receiving input data from a watchdog timer for the virtual runtime interface when
4 the processing system is in the OS context.

5
6 17. An apparatus according to claim 13, wherein the instructions cause the
7 processing system to provide a user interface that appears persistent to the user by
8 automatically interleaving two or more SMM contexts with two or more OS contexts.

1 18. A processing system comprising:
2 a processor;
3 memory communicatively coupled to the processor;
4 basic input/output system (BIOS) settings stored in the memory; and
5 instructions stored in the memory, wherein the instructions, when executed by
6 the processor, cause the processing system to perform operations comprising:
7 detecting a BIOS configuration trigger event after the processing system has
8 booted to an operating system (OS); and
9 in response to detecting the BIOS configuration trigger event, automatically
10 providing a virtual runtime interface that allows a user to modify the BIOS settings for
11 the processing system.

12
13 19. A processing system according to claim 18, wherein the memory comprises:
14 a first memory device that contains the BIOS settings; and
15 a second memory device that contains the instructions.

16
17 20. A processing system according to claim 18, wherein the processing system
18 provides the virtual runtime interface by:
19 transitioning from an OS context to a system management mode (SMM) context;
20 determining whether an amount of time spent in the SMM context approaches an
21 SMM time limit; and
22 if the amount of time spent in the SMM context approaches the SMM time limit,
23 automatically transitioning from the SMM context back to the OS context.

1 21. A processing system according to claim 20, wherein the processing system
2 provides the virtual runtime interface by:
3 saving state information from the SMM context before transitioning from the SMM
4 context back to the OS context;
5 after transitioning back to the OS context, determining whether a configuration
6 session has been completed; and
7 if the configuration session has not been completed, automatically transitioning
8 from the OS context back to the SMM context.
9
10